

Appl. No. 10/033,500
Amdt. Dated Mar. 17, 2004
Reply to Office Action of December 17, 2003

Remarks

Priority

Applicants have filed a certified copy of the Taiwan application as required by 35 U.S.C. 119(b), in support of applicants' claim for foreign priority based on the Taiwan application filed on November 21, 2001.

Claim Rejections under 35 U.S.C. 102

Claims 1-6, 8-14, and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Moore et al. (US 4,915,470).

Applicants have amended claim 1, and submit that claim 1 is patentable over Moore et al for the following reasons:

Claim 1 recites in pertinent part *a protuberance directly coupling in the fixing hole of the optical sleeve*. As described in paragraph [0021] and shown in FIG. 4, and described in paragraph [0023] and indicated in FIG. 5, this recitation includes the protuberance being closely engaged with the optical sleeve. Moore et al fails to disclose such an engagement between a lens holder and an optical sleeve. Rather, Moore et al discloses a protuberance engaging a cylindrical C-clip, and the cylindrical C-clip being connected with the optical sleeve. That is, the protuberance is not directly connected with the optical sleeve, and the cylindrical C-clip which interconnects the protuberance and the optical sleeve is not fittingly coupled in the optical sleeve, as shown in both drawings thereof. The present invention is clearly different from and novel in relation to the cited prior art.

Applicants further submit that claim 1 is unobvious over Moore et al under 35 U.S.C. 103, as follows:

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Moore et al discloses the C-clip engaging both the barrel-type projection of the cap and the end of the cable as the C-clip is inserted into the housing from an associated cable connector, but fails to disclose direct engagement between the lens holder and the optical sleeve. The accuracy of the whole optical subassembly of Moore et al is not determined by the engagement between the lens holder and the optical sleeve, but rather is determined by the engagement between the lens holder and the C-clip. So, if the size of the fiber changed, the C-clip and the optical sleeve will all be changed. And it is also difficult for user to disassemble the optical module connector for the complicated structure. Compare this with the present invention, in which an engaging portion of the optical sleeve is used to fittingly receive a protuberance of the lens holder. That is, the accuracy of the whole optical subassembly is determined by said direct engagement between the optical sleeve and the lens holder. In addition, said direct engagement is simpler than the engagement of Moore et al. So, if the size of the fiber changed, only the sleeve is need to chang, and this change is very simple. These substantial benefits constitute new, surprising results not taught or suggested by Moore et al. Therefore, claim 1 is unobvious over Moore et al.

In summary, the present invention's engagement between the optical sleeve and the lens holder is *not only structurally different but also functionally distinctly different from* the engagement between the optical sleeve and the lens holder of Moore et al. Therefore, applicants request that the rejection as to independent claim 1 be removed and the claim allowed.

Claims 2-6 and 8 are also believed to be patentable and allowable, since they depend directly or indirectly from independent claim 1.

Applicants have added the subject matter of claim 11 into independent claim 9. Amended claim 9 recites, inter alia, that a positioning portion further includes an engaging portion for fittingly receiving the protuberance of the lens holder therein.

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Applicants have also cancelled claim 11 without prejudice, and have amended claim 12 to depend from amended claim 9. Applicants submit that amended claim 9 is patentable over Moore et al, for the following reasons:

Claim 9 recites that *the fixing hole includes a positioning portion for retaining the optical connector therein, and further includes an engaging portion for fittingly receiving the protuberance of the lens holder therein.* As described in paragraph [0021] and shown in FIG. 4, and described in paragraph [0023] and indicated in FIG. 5, this recitation includes the protuberance being closely engaged with the optical sleeve. Moore et al fails to disclose such an engagement between a lens holder and an optical sleeve. Rather, Moore et al discloses a protuberance engaging a cylindrical C-clip, and the cylindrical C-clip being connected with the optical sleeve. That is, the protuberance is not directly connected with the optical sleeve, and the cylindrical C-clip which interconnects the protuberance and the optical sleeve is not fittingly coupled in the optical sleeve, as shown in both drawings thereof.

The present invention is clearly different from and novel in relation to the cited prior art.

Applicants further submit that claim 9 is unobvious over Moore et al under 35 U.S.C. 103, as follows:

As asserted above, the accuracy of the whole optical subassembly of Moore et al is not determined by the engagement between the lens holder and the optical sleeve, but rather is determined by the engagement between the lens holder and the C-clip. So, if the size of the fiber is changed, the C-clip and the optical sleeve will all be changed. And it is also difficult for user to disassemble the optical module connector for the complicated structure. Compare this with the present invention, in which an engaging portion of the optical sleeve is used to fittingly

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receive a protuberance of the lens holder. That is, the accuracy of the whole optical subassembly is determined by said direct engagement between the optical sleeve and the lens holder. In addition, said fittingly coupling engagement is simpler than the engagement of Moore et al. So, if the size of the fiber changed, only the sleeve is needed to change, and this change is very simple. These substantial benefits constitute new, surprising results not taught or suggested by Moore et al. Therefore, claim 9 is unobvious over Moore et al.

In summary, the present invention's engagement between the optical sleeve and the lens holder is *not only structurally different but also functionally distinctly different from* the engagement between the optical sleeve and the lens holder of Moore et al. Therefore, applicants request that the rejection as to independent claim 9 be removed and the claim allowed.

Claims 10, 12-14 and 16 are also believed to be patentable, since they depend directly or indirectly from independent claim 9.

Applicants have amended claim 17, and submit that claim 17 is patentable over Moore et al for the following reasons:

As described in paragraph [0021] and shown in FIG. 4, and described in paragraph [0023] and indicated in FIG. 5, the recitation in claim 17 of "fittingly coupling" includes a close engagement; in particular, a protuberance being closely engaged with an optical sleeve. Moore et al fails to disclose such an engagement between a lens holder and an optical sleeve. Rather, Moore et al discloses a protuberance engaging a cylindrical C-clip, and the cylindrical C-clip being connected in the optical sleeve. In particular, the protuberance is not fittingly coupled in the optical sleeve, as shown in both drawings thereof. The present invention is clearly different from and novel in relation to the cited prior art. In addition, claim 17 defines the lens holder is made of transparent material and the

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lens is integrally formed with the lens holder and with the same material. Oppositely, in Moore et al. the cap (20) and the lens (22) are discrete from each other. Thus, the alignment effect is influenced by all engagement between (I) the lens (22) and the cap (20), (II) that between the cap (20) and (III) the C-clip (46) and that between the housing (30) and the C-clip (46). In opposite, in the instant invention the alignment effect is influenced only by engagement between the fixing hole of the sleeve and the interengagement device of the lens holder, advantageously.

Applicants further submit that claim 17 is unobvious over Moore et al under 35 U.S.C. 103, as follows:

As asserted above, the accuracy of the whole optical subassembly of Moore et al is not determined by the engagement between the lens holder and the optical sleeve, but rather is determined the engagement between the lens holder and the C-clip. So, if the size of the fiber is changed, the C-clip and the optical sleeve will all be changed. And it is also difficult for user to disassemble the optical module connector for the complicated structure. Compare this with the present invention, in which an interengaging device (i.e. engaging portion plus protuberance) is used to fittingly couple said optical sleeve and said lens holder together. That is, the accuracy of the whole optical subassembly is determined by the fitting engagement between the optical sleeve and the lens holder. Said fitting engagement is apt to provide more accuracy than the engagement of Moore et al. In addition, said fitting engagement is simpler than the engagement of Moore et al. So, if the size of the fiber changed, only the sleeve is needed to change, and this change is very simple. These substantial benefits constitute new, surprising results not taught or suggested by Moore et al. Therefore, claim 17 is unobvious over Moore et al.

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In summary, the present invention's interengagement device providing fitting coupling between the optical sleeve and the lens holder is *not only structurally different but also functionally distinctly different* from the engagement between the optical sleeve and the lens holder of Moore et al. Therefore, applicants request that the rejection as to independent claim 17 be removed and the claim allowed.

Claim Rejections under 35 U.S.C. 103

Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al.

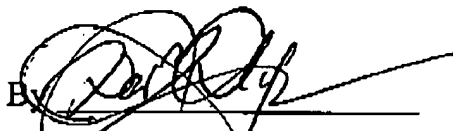
In response to this rejection, applicants traverse as follows. Claim 7 depends from amended claim 1, and applicants submit that amended claim 1 is patentable as detailed above. Accordingly, claim 7 which depends from amended claim 1 should also be allowed.

Claim 15 depends from amended claim 9, and applicants submit that amended claim 9 is patentable as detailed above. Accordingly, claim 15 which depends from amended claim 9 should also be allowed.

In view of the above claim amendments and remarks, the subject application is believed to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,

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